I CLAIM:

1. A method of operating a wireless communications unit to request a connection with a base station, comprising the steps of:

receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit;

selecting one of a plurality of orthogonal codes for the preamble;

generating a spread code using the selected orthogonal code, the spread code arranged as a symbol of the selected code, repeated a selected number of repetitions; and

transmitting, to the base station, a preamble signal corresponding to the spread code.

2. The method of claim 1, further comprising:

after the step of generating a spread code, multiplying the spread code by a scrambling code associated with the base station.

3. The method of claim 2, wherein the spread code has a length corresponding to a length of the scrambling code.

4. The method of claim 3, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

5. The method of claim 4, wherein the set of Walsh Hadamard codes consists of the set of Walsh Hadamard codes having a length of sixteen;

wherein the generating step repeats a symbol of the Walsh Hadamard code 256 times;

and wherein the length of the scrambling code is 4096 chips.

6. The method of claim 4, wherein the set of Walsh Hadamard codes consists of the set of Walsh Hadamard codes having a length of sixteen;

wherein the generating step repeats a symbol of the Walsh Hadamard code 240 times;

and wherein the length of the scrambling code is 3840 chips.

7. The method of claim 1, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

8. The method of claim 1, wherein the selecting step comprises executing a pseudo-random selection algorithm.

9. The method of claim 1, wherein the receiving step receives a signal indicating a plurality of time slots within which the preamble may be transmitted by the wireless communications unit;

and further comprising:

selecting one of the plurality of time slots for transmission of the preamble.

10. The method of claim 1, further comprising:

operating a base station to process the transmitted preamble, comprising the steps of:

receiving the transmitted preamble;

de-interleaving bits from the spread code, to group corresponding bits from each of the repetitions of the symbol;

despreading the grouped bits to recover a symbol;

correlating the recovered symbol to identify the selected orthogonal code.

11. A method of operating a base station to recover a preamble code transmitted by a wireless unit, comprising the steps of:

receiving a signal corresponding to a preamble;

arranging the signal into a bitstream;

de-interleaving bits from the bitstream, to group corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups;

despreading the bits of each of the plurality of groups to recover a plurality of symbol bits in a sequence, the sequence having a length corresponding to a length of the preamble code; and

correlating the sequence to identify a code, the code corresponding to one of a set of orthogonal codes.

12. The method of claim 11, wherein the de-interleaving step comprises:

applying the bitstream into a sequence of tapped delay lines; and

grouping corresponding taps from each of the tapped delay lines.

13. The method of claim 11, further comprising:

responsive to the correlating step identifying a code, initiating a connection with a wireless unit that transmitted the preamble.

14. The method of claim 11, wherein the number of groups generated by the de-interleaving step corresponds to the length of the preamble code times a number of segments in the bitstream;

wherein the despreading step recovers the plurality of symbol bits into a sequence having a length corresponding to the length of the preamble code times the number of segments;

and wherein the correlating step comprises:

correlating each of the corresponding symbol bits from each of the plurality of segments to identify the code.

15. The method of claim 14, wherein the correlating step comprises summing the power of the corresponding symbol bits from each of the plurality of segments.

16. The method of claim 14, wherein the correlating step comprises deriving a difference value of the corresponding symbol bits from each of the plurality of segments.

17. The method of claim 14, wherein the number of segments is four, with each segment having sixty-four symbols.

18. The method of claim 14, wherein the number of segments is eight, with each segment having thirty-two symbols.

19. The method of claim 14, wherein the number of segments is two, with each segment having one hundred twenty-eight symbols.

20. A wireless communications unit, comprising:

an antenna for transmitting and receiving signals;

a radio subsystem coupled to the antenna for amplifying and processing of signals transmitted and received at the antenna;

circuitry, coupled to the radio subsystem, for converting received signals into digital form, and for converting digital signals into a form transmittable over the antenna;

a programmable digital circuit, for performing digital operations upon signals to be transmitted and received, the programmable digital circuit programmed to request a connection with a base station by performing operations comprising:

receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit;

selecting one of a plurality of orthogonal codes for the preamble;

generating a spread code using the selected orthogonal code, the spread code arranged as a symbol of the selected code, repeated a selected number of repetitions; and

transmitting, to the base station, a preamble signal corresponding to the spread code.

21. The unit of claim 20, wherein the operations performed by the programmable digital circuit further comprise:

after generating the spread code, multiplying the spread code with a scrambling code associated with the base station.

22. The unit of claim 20, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes

23. A base station for a wireless communications network, comprising:

at least one base station antenna, for receiving and transmitting communications signals;

radio frequency interface circuitry, coupled to the antenna, for transmit and receive formatting and filtering signals received from or to be transmitted from the antenna;

baseband circuitry, coupled between the radio frequency interface circuitry and a telephone network, for performing digital operations upon received data and data to be transmitted by the base station, the baseband circuitry comprising:

circuitry for encoding and modulating digital data received from the telephone network and to be transmitted from the base station via the antenna;

demodulating and despreading circuitry, for recovering a preamble code transmitted by a wireless unit, comprising:

a sequence of delay lines for receiving a bitstream corresponding to a received signal including the preamble code;

a plurality of despreader functions, each coupled to a tap position in each of the sequence of delay lines, for receiving corresponding bits from corresponding positions in each of the delay lines, and for generating a bit of a symbol therefrom; and

a code correlation function, for comparing the symbol presented by each of the plurality of despreader functions against a set of orthogonal codes, and for generating a signal indicating the correlation of the presented symbol with each of the orthogonal codes in the set.

24. The base station of claim 23, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

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